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ABSTRACT

A study is reported which examines the concept of career education infusion as it has been presented in selected curriculum guides, particularly those developed for the middle school and junior high school levels. The report, presented in the form of questions and answers, is written primarily for curriculum developers responsible for planning and implementing career education. It attempts to define the term "infusion" and establish criteria for determining if infusion is being facilitated by the curriculum guides. A second area explored is the relationship between student outcomes in the guides and a comprehensive definition of career education. A third area examined is the concern that implementation of career education at times may not be taking the career development stages of students into account; the report briefly examines the congruence of the outcomes and activities in the guides with appropriate theoretical career development stages. The fourth and final part of the report focuses on whether or not the major instructional components for evaluating the effectiveness of an outcome or activity are included in the guides. (CT)

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# CAREER EDUCATION INFUSION: A REVIEW OF SELECTED CURRICULUM GUIDES FOR THE MIDDLE SCHOOL

written by

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## FOREWORD

The Educational Resources Information Center on Adult, Career, and Vocational Education (ERIC/ACVE) is one of sixteen clearinghouses in a nationwide information system that is funded by the National Institute of Education. One of the functions of the Clearinghouse is to interpret the literature that is entered in the ERIC data base. This paper should be of particular interest to curriculum coordinators, supervisors, and administrators of career education programs.

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Education

## ABSTRACT

A study is reported which examines the concept of career education infusion as it has been presented in selected curriculum guides, particularly those developed for the middle school and junior high school levels. The report, presented in the form of questions and answers, is written primarily for curriculum developers responsible for planning and implementing career education. It attempts to define the term "infusion" and establish criteria for determining if infusion is being facilitated by the curriculum guides. A second area explored is the relationship between student outcomes in the guides and a comprehensive definition of career education A third area examined is the concern that implementation of career education at times may not be taking the career development stages of students into account; the report briefly examines the congruence of the outcomes and activities in the guides with appropriate theoretical career development stages. The fourth and final part of the report focuses on whether or not the major instructional components for evaluating the effectiveness of an outcome or activity are included in the guides. (CT)



DESC::*Career Development; *Career Education; Curriculum Development; *Curriculum Guides; *Junior High Schools; *Middle Schools; Program Evaluation; Program Development; Definitions; Learning Activities; *Outcomes of Education

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## WHAT WAS OUR PURPOSE?

The purpose of this short report is to study the concept of career education infusion as it has been presented in selected curriculum guides, particularly those developed for the middle school - and junior high school - levels.

The topic of infusion is extremely important in that it is one of the major approaches for the delivery of career education. However, there is apparent confusion about the meaning of the term. It obviously has come to mean many things to many people. Therefore, we have attempted to define the term and establish criteria for determining if it is, indeed, infusion that is being facilitated by the curriculum guides.

A second concern is to explore the relationship of student outcomes in the guides to a comprehensive definition of career education. Career education, in its early stages, did not have an established definition. This created several problems, including the development of materials around diverse student outcomes. In some cases, the result was the polarization of outcomes. Frequently outcomes tended to emphasize one, or possibly two, areas without encompassing the comprehensiveness of a person's total career development.

A third concern in the report - and of many practitioners as well - is that the implementation of career education at times may not be taking the career development stages of students into account. For the past three decades, a great deal of theory has been presented regarding career and vocational development stages. However, the stages frequently are not considered by curriculum developers in the delivery of career education. Therefore, the third focus of this report is on the theoretical framework for the levels under consideration, that is, the middle school and junior high grades. The report briefly examines the congruence of the outcomes and activities in the guides with appropriate theoretical career development stages.

A fourth focus of the report is whether or not the major instructional components for evaluating the effectiveness of an outcome or activity are included in the guides. Currently, accountability is being stressed. In order to be useable for accountability purposes, the guides must include certain components. In addition, the career education movement needs to prove that it is effectively making changes in student knowledge, skills, and attitudes. Having these components in the guides allows one to evaluate career education efforts and, therefore, be accountable.

The report, presented in the form of questions and answers, has been written primarily for curriculum developers responsible for planning and implementing career education. It also is hoped that teacher educators will use this information to further develop their own "infused" courses of study.

## HOW DO THE GUIDES INFUSE? (REVIEW FOCUS ONE)

The major purpose of this analysis is to determine how well the concept of infusion is being implemented through developed curriculum guides. This section presents definitions from the literature on infusion to establish three criteria to determine whether an infusion approach has been used. Also, a brief rationale as to why infusion is advocated is presented.

HOW HAS INFUSION BEEN DEFINED?

One of the least agreed upon concepts in career education is that of infusion. In the search of the literature, it is interesting to note how few definitions of this term can be found. The following definitions illustrate the diversity of meanings currently used, at least as they relate to career education:

- Any effort of a teacher, school, or school system to provide specific career-related instruction as part of an existing subject curriculum. (Popper et al., 1978, p. 6)

- To put in, fill, imbue, install, steep, or soak... blend career education objectives into regular instruction. (Bridgeford et al., 1977, p. 58)

- Career development concept is woven right into or taught alongside a regular curriculum topic, or when a real world experience is used to demonstrate the relevance of a currently taught curriculum topic. (Raymond, 1978, p. 264)

- The process of weaving, threading, or infusing into the curriculum...initiated to clarify that career education is not separate but infused within the total school program and as such is a thread weaving throughout the entire curriculum. It is not a separate subject or an add-on, but included in all areas to facilitate the relationship between education and work. (Preli, 1978, p. 14)

- Skills, knowledge, and attitudes students receive as a result of the career education effort should not be packed in a formal career education "course" or series of

courses. Instead, the common recommendation is that they be "infused," "threaded," or "woven" into the content of existing courses in the curriculum. (Hoyt, 1979, p.12)

- The career development concepts are taught as the present curriculum lends itself to the topic. It is not intended that the normal content should be replaced. Infused career development activities should reflect specific curriculum content which should be mastered by the student as well as a particular career development concept. It is assumed that career development concepts are distributed throughout the K-12 curriculum. The present curriculum concept and career education concept should become so intermeshed or infused that neither is predominate. (Raymond, 1979, p.258)

- An example often used to communicate "infusion" would be that the subject matter curriculum could be characterized as coffee, the career education concepts as cream, and when the two are mixed they are no longer discernable in their original form. (Partners in Careers, 1977, p.57)

One underlying theme of these definitions is that infusion implies the "weaving in" of career education concepts into the regularly taught curriculum concept. In other words, it "happens" in the instructional content setting. If this is the case, the following criteria could be used to judge whether or not an idea is actually infused:

- There is a career development concept to be taught - and also a regular curricular concept to be taught

- The two concepts are woven together in a lesson plan or activity and taught in conjunction with each other or at the same time

An activity idea would not be considered infused if under the following conditions:

- An added career development-related activity was taught immediately after the regular curricular concept has been taught

- A separate lesson or amount of instruction related to a career development concept was taught in the regular classroom

- Another strategy was employed in the classroom environment

It should be noted that no judgment was made here regarding whether or not a particular approach is correct. The criteria were used only to determine whether or not a particular approach was being advocated. Other important avenues for exposing students to career development concepts besides infusion are as follows:

- Units of career exploration (often in junior high core programs)
- Career units/activities added to a regular class
- Special programs such as work study and shadowing
- Career seminars
- Elective courses at the junior high school level
- Career guidance centers

WHY IS INFUSION ADVOCATED?

This report will not present a detailed rationale for or against infusion. Nevertheless, for a better understanding of the implications, it is felt that a brief rationale should be presented.

Most authorities believe that career education concepts that are infused will have a greater chance for longevity in the classroom and will be most meaningful. The separate approach, often called an "add-on," usually is considered a totally different course or unit in the regular curriculum or is a separate delivery strategy - for example, career guidance centers.

Hoyt (1979) presented several reasons for infusion. He wrote, "Most career education advocates have recommended that the skills, knowledge, and attitudes students receive as a result of the career education effort should not be packaged in a formal career education 'course' or series of courses. Instead, the common recommendation is that they be 'infused,' 'threaded,' or 'woven' into the content of existing courses in the curriculum" (p. 12).

Hoyt (1979) pointed out several basic reasons for this recommendation:

- Career education seeks to refocus the entire education system back to one of the many important goals - that of preparation for work. If educators have responsibility for changing this refocus, it also should contribute to

increases in pupil academic achievement. If the skills, knowledges, and attitudes to be transmitted through a career education effort were transmitted through addition of a new course, the result would be an "add-on" but not a "refocus" of the system (p. 12).

- Career development skills, knowledge, and attitudes can, for the most part, be effectively and naturally transmitted to students as part of the regular educational process. Many educators have already been doing this long before the term "career education" was coined. Moreover, if it is an "add-on" curriculum, decisions would need to be made as to what to delete in an already overcrowded curriculum. It simply does not appear to be good logic to think about transmitting career education to students through the mechanism of an entirely new course (p. 12).

- An "add-on" costs more. The public call is to make education more effective, not to make it more costly. Staff salaries and physical equipment (including classroom space) are the major items involved in any school budget. If, to implement career education, sizable increases in the education budget were to be required, it is highly doubtful if many educational institutions would be either able or inclined to move rapidly. In view of the fact that it does not appear to be essential that the "new course" approach be taken, it would be extremely difficult to justify this approach with those now concerned with the holding down of costs of education (pp. 12-13).

In addition, Hoyt (1979) described the rationale behind infusion in these terms: "Pupils can acquire the skills, knowledge, and attitude career education seeks to convey while simultaneously being motivated to learn and to increase the amount of subject matter actually learned" (p. 23). Hoyt made several extremely important points. He wrote that pupils can -

- become more aware of the nature of the work of paid employment and simultaneously learn the importance of the basic academic skills for attaining success in the occupational society;

- explore their interest in possible careers and simultaneously learn why subjects they are taking in school are essential for success in those careers;

- learn both about the free enterprise system and increase their skills in basic mathematics if the

mathematic problems they give are related to free enterprise concepts;

- increase their reading effectiveness by reading about careers in which they have expressed interest while simultaneously learning more about those careers;

- be motivated to learn foreign languages more effectively if teachers use examples of how people use foreign languages in their work as part of the teaching/learning process;

- learn decision making if an activity-oriented approach to teaching is utilized that demands students to make decisions (p. 13).

WHAT CRITERIA WERE USED TO DETERMINE INFUSION IN THE CURRICULUM GUIDES?

With this background information, this writer was able to derive three criteria for determining whether or not a currriculum guide indicated an infusion approach. (See appendix.) In order to state that a curriculum guide used the infusion approach, all three of the following criteria had to be met:

1. Was there a career development concept/outcome to be taught?

2. Was there a regular curricular concept/outcome to be taught?

3. Were the two concepts interwoven in a plan or activity to be taught in conjunction with each other or at the same time?

Only those guides were reviewed that indicated in the abstract that an infusion approach was used.

## WHAT CRITERIA WERE USED TO DETERMINE COVERAGE OF COMPREHENSIVE STUDENT OUTCOMES? (REVIEW FOCUS TWO)

It was decided early in the study that it would be important to determine if the guides were built around career development outcomes and if the coverage of such outcomes was comprehensive or whether it tended toward polarization.

One of the concerns of authorities in this area has been the number of definitions that have persisted. In her study of the definitional and conceptual problems of career education, Hansen (1977) stated that "there are limitations and polarizations in the definitions which need to be attended to if career education is going to continue to be a viable movement in education" (p. 4). In the last few years, other career educators have attempted to pull together a comprehensive definition. Nevertheless, lack of consensus has influenced curriculum development efforts in various ways. What appears to have occurred is the emphasis upon a limited set of student career development outcomes. Hence, it was felt that curricular guides reviewed in this study should be examined for their comprehensiveness and polarization of outcomes.

To determine which outcomes should be utilized as review criteria, it was important to examine several of the more commonly utilized definitions of career education. Hansen (1977) identified several philosophical foci for career education. Some strongly emphasized the economic role and preparation for paid work; some included the economic role but emphasized career development and counseling; others emphasized the several roles for which education is expected to prepare youngsters. Hansen indicated there was a continuum which included -

- work or the individual;
- content or process;
- work roles or multiple roles; and
- training for employability or educating for life.

Another classification can be made on the basis of how work is defined - that is, whether it is limited to paid employment or whether it includes all significant goal directions activities.

Hansen's philosophical foci may be examined as to whether the emphasis is on one of the following:

- Job Skills as a Focus for Career Education. This is the most narrow conceptualization and often is equated

with occupational training. The primary emphasis is on employability skills and matching the person to the job. This view comes mainly from those with vocational education orientation.

- Work as a Focus for Career Education. Some educators see work as the focus of career education with emphasis on occupational information and preparation. This approach stresses occupational information through occupational clusters combined with skill training. Emphasis is on income and production and consumer orientation. The words "career" and "occupation" often are used synonymously with focus on paid employment. "Career" is defined as the sum total of the paid work experience.

- Self-development as a Focus for Career Education. This view suggests that the person is or should be the major focus. Work, paid or unpaid, is one major way the individual interacts with the environment. Exploratory activities in work and the community are seen as a vehicle to help individuals clarify their values, needs, and goals in fashioning a meaningful life. Career is a process internal to the individual - it is something people have rather than something they choose. However, through a career, individuals make choices and hold a sequence of positions during their lifetime.

- Life as a Focus for Career Education. Some educators see career education as a way of looking at total education for life and living. Career is synonymous with life. Some say all education is, or should be, career education.

A related concern is over the misuse of the two concepts - career education and vocational education. Hoyt (1976) made this distinction quite clear:

> Vocational education in the traditional sense has usually been thought of as a high school skills training offering. Its major focus is that of assisting individuals in the development of entry level skills and knowledges to get into the marketplace. Emphasis is on preparation for work in the world of paid employment and usually thought of as a non-baccalaureate program.... Career education focus is on relevancy of current school learnings to work, career awareness and exploration, decision making, work value, work habits, interpersonal relations, and those attitudes, through work undertaken and engaged in by the individual (p. 7).

Early in the career education movement, through the federally sponsored school-based model, eight elements or student goals were identified. As stated in the Developmental Program Goals for the School Based Model (1972), pp. 6-9, they included the following:

- Self-awareness - achieving an increased awareness and understanding of interests, aptitudes, and responsibilities as these relate to various careers.
- Educational awareness - demonstrating increased awareness and understanding of interests, aptitudes, and responsibilities as these relate to various careers.
- Career awareness - understanding the world of work and its impact on society.
- Economic awareness - understanding of the economic system both as it relates to career development and the community and society at large.
- Decision-making - making decisions related to one's career.
- Beginning competency - understanding the relationship between education and training - appreciating the relationship between what is learned in school and how it is used in work.
- Employability skills - possessing career entry-level skills upon leaving the formal educational program.
- Appreciation and attitudes - developing an understanding and appreciation for the value of continual learning, the arts, and leisure qualities of life.

The Office of Career Education (Hoyt, 1975) published an official policy paper which listed nine outcomes that career education seeks to produce in individuals by the time they leave school, at any age or grade level. They are as follows:

- Competent in basic academic skills required for adaptability in our rapidly changing society
- Equipped with good work habits
- Capable of choosing a personally meaningful set of work values that foster in them a desire to work
- Equipped with career decision-making skills, job hunting, and job getting skills

- Equipped with vocational skills at a level that will allow them to gain entry into and attain a degree of success in the occupational society

- Capable of making career decisions based on the widest possible set of data concerning themselves and their educational vocational opportunities

- Aware of means available to them for continuing and recurrent education once they have left the formal system of schooling

- Successful in being placed in a paid occupation, in further education or in a vocation consistent with their current education

- Successful in incorporating work values into their total personal value structure in such a way that they are able to choose what, for them, is a desirable career (pp. 10-11).

Many of the curriculum guides reviewed in this study utilized either the theme areas of the school-based model or the Office of Career Education outcomes. The writer decided to use both sources as well as a succinct listing of student outcomes that presented eighteen career development outcomes. The eighteen outcomes, developed by Mesa (Arizona) Public schools, were based on a theoretical framework and extensive review by nationally-recognized practitioners. The outcomes were as follows:

- Variety in self - the student will be familiar with his/her personal characteristics and how they apply to self-understanding.

- Effects of self - the student will appreciate the interrelationship between personal characteristics and personal behavior.

- Causal agent - the student will understand the extent of a person's control over his or her own destiny.

- Decision-making - the student will become acquainted with the nature and the use of processes for resolving problems through systematic decision making.

- Personal values - the student will make his or her own value system self concepts explicit and applicable to given situations.

- Values of and for others - the student will appreciate both the congruence and the conflicts of personal values and community values that are involved in living in society.

- Variety of occupations - the student will be familiar with both the diversity and the common characteristics of a variety of occupations.

- Occupations and the self - the student will be able to evaluate occupations in terms of interest, skills, ability, and self-concept.

- Aptitudes and training - the student will appreciate the prerequisite abilities of occcupations and the training which provides these abilities.

- Subject relevancy - the student will recognize the contribution of formal education to the world of occupations.

- The value of work - the student will know the various meanings described to work and the satisfactions that can be derived from work.

- The discipline of work - the student will recognize the importance of individual responsibility in any work situation.

- Acceptance of all workers - the student will understand that all occupations and all workers make valuable contributions to society.

- Interdependance of workers - the student will appreciate the ways in which workers depend upon each other while functioning in the world of work.

- Planning and acceptance - the student will be able to make feasible career plans and prepare for a variety of planning outcomes.

- Lifestyle and value of success - the student will appreciate the varieties of life styles and the measures of success associated with careers and experienced by workers.

- Societal and economic causes and effects - the student will understand the mutual interaction of occupations with society and the economic world, and will appreciate

the implication of this relationship, both for the individual person and for society (Raymond, 1978, pp. 252-254).

These eighteen outcomes serve as a definition of career education that seems to be more comprehensive than the school-based model or the Office of Career Education outcomes. The outcomes, however, do not indicate specific instructional outcomes or objectives by grade level. The Mesa public schools developed specific student objectives by grade/developmental levels, however, they were not used in this study.

As the curriculum guides were reviewed, the nature and number of outcomes emphasized were tabulated. While all three of the above outcome lists were used, the eighteen student outcomes were considered the most comprehensive. Although not every outcome was counted, a determination was made regarding general emphasis. It was determined that a guide may have emphasized only one outcome, a few, or many.

## HOW CONGRUENT WERE THE GUIDES WITH THE THEORY OF CAREER DEVELOPMENTAL STAGES? (REVIEW FOCUS THREE)

One of the many concerns advocates of career education have is that implementation in schools is not considering the theoretical underpinnings of a person's career development. Most development, it has been stated, has been of the "hit and miss" approach regarding what is being taught at various developmental levels. Herr (1977) discussed this at some length:

> There is little direct evidence that career education programs are being developed from specific theoretical models or concepts. An initial category of concern to this paper was the relationship of career development theory to career education. However, no research or evaluation studies were found which pursued such relationships directly. There are many studies available which test specific hypotheses generated by different theoretical approaches, but these studies typically do not address career education in either the procedures or the findings. It seems apparent that many current career education projects have borrowed their goals from national or state demonstrations projects which themselves may have officially used career development theory of some description (Holland, Super, Tiedeman, Roe) for conceptual frame reference. Unfortunately, the original linkage between career development theory and national or state model goals have tended to become obscure as the goals have taken on their own legitimacy in the uses of those who borrow the goals indiscriminantly. In some other instances, career education projects tend to be theoretical, focusing on means rather than either goals or outcomes (p. 62).

Hansen (1977) also stated that -

> The expanded career education concept builds on a solid rationale and conceptual framework of the best knowledge available in career development theory and research. This means that programs are based on what is known about occupational socialization process, career needs of youth and adults, stereotyping and information processing, developmental tasks at different life stages, and career decision-making processes (p.36).

## WHAT ARE THE APPROPRIATE CAREER DEVELOPMENTAL TASKS FOR MIDDLE SCHOOL STUDENTS?

How does one know what types of career education goals, objectives, or activities should be provided - and at what grade level? The best advice is to turn to such theoreticians in vocational and career development as Super, Roe, Tiedeman, Tennyson, Gysbers, Hansen, Holland, and Havighurst, who have spent much time examining this question.

In trying to settle upon a theoretical framework to use in this study, the writer chose to use a schematic framework prepared by Tennyson et al. (1970). (Note: The next several pages are adapted excerpts from this document.) This framework was selected since it presents a useful synthesis of career and vocational development theoretical thinking of the experts cited above. Tennyson indicated that the career development of an individual is a continuous life process. It is similar for all individuals, although people proceed at different rates. Tennyson presented four stages and noted that they should be considered continuous and overlapping rather than discrete intervals. Like physiological and intellectual development stages, career development stages are sequential, although they cannot be directly tied to chronological age. Tennyson used the instances where most students undergo curricular changes as dividing points, since it is at these points that students face new demands and need to be taught how to deal with them. The four stages were: primary, grades K-3; intermediate, grades 4-6; junior high, grades 7-9; and senior high, grades 10-12. We will briefly review the two stages he described which are most relevant to this report - intermediate and junior high (p. 25).

Intermediate School Stage.

In this stage, children continue to face tasks similar to those at the primary level but with a good deal more complexity. Whereas at the primary stage children distinguish between various occupations on the basis of tool and uniform cues, at the intermediate stage children develop the ability to conceive of functions of the occupations (p.29). The following include the specific areas of career development at this stage:

- Developing a positive self concept - at this level, self-awareness must expand into a self-concept. Schools can facilitate this by providing situations in which the individual can actively participate in group interaction and communication relevant to the self.

- Acquiring the discipline of work - at this stage, children learn to win recognition for producing things. They need the opportunity to do work and reinforcement for doing it. Persistence, organization, and utilization of resources provide children with the

method for acquiring the discipline of work.

- Identification with the concepts of work as a valued institution - at this stage, children move to identification with the concepts of work as they develop the ability to conceptualize. Once they have internalized this value, they proceed to personalize it.

- Increasing knowledge about workers - students should expand their knowledge of workers beyond the home and neighborhood. Emphasis should be on having students actively encounter the world of work with its accompanying terminology and concepts. The most effective way for this to occur is through direct contact with workers.

- Increasing interpersonal skills - peer relationships are important, and an increasing amount of sophistication is required at this level. Students must now work effectively in more complex types of group activities.

- Increasing objectification of self before others - the more competent individuals become during this stage, the more likely they will be able to overcome future problems of adolescence and maintain their self-esteem.

- Valuing human dignity - youngsters move from respect for specific people and their work to appreciation of all people. Students need to gain understanding of the interdependence of all people (pp. 29-31).

Junior High School Stage.

At this point in children's development, individuals undergo great changes physically, intellectually, and socially. They must come to accept themselves as an entirely different person both outwardly and inwardly. The concern during this period is with identity (p. 31).

- Clarification of self-concept - self-concepts begin to form prior to adolescence but are made clear through this period in terms of "new" self. The individual is in an exploratory stage of vocational development and explores self-attributes and dimensions of the world of work.

- Assumption of responsibility for vocational planning - for the first time students usually have a choice in some of their curriculum. They combine a sense of agency with the discipline of work; they assume responsibility and a sense of independence.

- Formulation of career hypotheses - great care must be taken at this time to avoid pressuring students into liking a particular career. They should be making tentative choices and, perhaps, narrowing their range of occupational interest. The approach is aimed at making children familiar with factors and processes involved in choosing careers.

- Acquiring knowledge of occupations and work settings - children extend their focus from workers and work to some of the more complex attributes of occupations. Students should examine the subtler factors involved in work satisfaction and rewards. They should begin to look for what they personally would find necessary, important, and valuable in work.

- Acquiring knowledge of educational and vocational resources - one function of the middle school is to help students choose and locate appropriate curriculum or jobs. The task is to give students the information they need to make realistic choices.

- Awareness of the decision-making process - it is necessary to help youngsters develop effective decision-making skills. Career development takes place within the framework of rapidly changing occupations. Vocational decision making is an on-going process of making choices, obtaining new information and experiences, revising choices, and making new choices.

- Acquiring a sense of independence - as one's range of activities increases, dependence on the home weakens. Children begin to acquire a sense of independence. Having learned what they can do, they must decide what they will do. If students are successful in making their own decisions, the self-concept is strengthened and they are aided in establishing a separate identity (pp. 31-32).

WHAT CRITERIA WERE USED TO DETERMINE CONGRUENCE OF OUTCOMES TO THE THEORETICAL DEVELOPMENTAL STAGES?

The stages described above by Tennyson were used to determine congruence of student outcome and activities to career developmental theory. Within these constraints, a random number of outcomes in each guide was examined for congruence. The reviewer indicated whether the outcomes examined were either below the appropriate developmental stage, at or near the appropriate developmental stage, or above the appropriate developmental stage.

## HOW USABLE ARE THE GUIDES FOR ACCOUNTABILITY PURPOSES? (REVIEW FOCUS FOUR)

In the implementation of new efforts, educators must look for ideas, programs, and materials that will allow them to be accountable for results. Program implementors need to evaluate the effectiveness of what they are attempting to achieve - as well as to make programmatic changes enroute. Along these lines, Herr (1977) wrote that "Many evaluation reports tend to be descriptive of the types and amount of participation by teachers and students in career education efforts without assessing the quality of this participation or the relationship of certain types of career education participation to subsequent outcomes, for example, student learning" (p. 62). He concluded that much more needs to be done to answer the major question - namely, does career education make a difference in student learning?

Several components should be present in curriculum guides that will allow one to evaluate effectiveness of the activities and be accountable from a program perspective. The writer did not attempt to identify all the components of a "good" guide but rather examined the guides for at least three major instructional components. The following components from the instrument, "Assessment Tool for Determining a 'Good' Curriculum Development Product," (Raymond, 1972) were considered: instructional objectives, which are measurable or observable; assessment tools, which could be used both in a pre- and post-assessment; and activities congruent to instructional objectives.

### WHAT CRITERIA WERE USED TO DETERMINE POTENTIAL FOR ACCOUNTABILITY?

Three criteria, presented below as a rating scale, were used to determine usefulness of the guides for potential accountability:

| Adequate | Somewhat Adequate | Missing | |
|---|---|---|---|
| 2 | 1 | 0 | (1) Are there written, measurable student instructional objectives? |
| 2 | 1 | 0 | (2) Are there ways of measuring student achievement of each objective? Are measurement tools congruent with objectives? |

| | | | |
|---|---|---|---|
| 2 | 1 | 0 | (3) Are the activities consistent with the stated objectives? |

Up to two points could be awarded for each criteria - a total of six points possible. Rather than examine every outcome or activity in the guides, a random number of outcomes or activities were selected in each guide for determining the amount of points to be awarded.

WHAT FACTORS DETERMINED WHICH GUIDES WERE TO BE ANALYZED?

The first step taken to identify curriculum guides, which infused career development outcomes with the regular curriculum, was to conduct an ERIC search of documents to discover in which documents the infusion approach may have been used. A total of 371 documents were identified. Abstracts were reviewed and a determination made as to whether an infusion approach might possibly have been used. The criteria to determine infusion were whether or not the abstract stated or inferred that career development concepts were used with regular curriculum content. In examining abstracts, it was found that seventy-three documents appeared to be using an infusion approach. The chart below indicates the result of this analysis.

| Apparent Type of Document | Number | Percent of Total |
|---|---|---|
| Infusion curriculum guides | 73 | 19.7 |
| Curriculum guides using a non-infusion approach | 156 | 42.0 |
| ---Occupational information | (86) | (55.1) |
| ---Self-awareness | (70) | (44.9) |
| Course in which occupational information or simulations were used exclusively | 52 | 14.0 |
| Vocational skill training guides | 24 | 6.5 |
| Instructional guide but not related to career education | 14 | 3.8 |
| Other | 52 | 14.0 |
| Total | 371 | 100% |

From this data, the following points should be highlighted:

- Only 19.7 percent of the documents appeared to use an infusion approach.

- Of those that did not use an infusion approach, the guides tended to focus on two areas - career occupational information and/or self-awareness concepts. Materials included such things as career cluster exploration units for junior high students, work/study courses, career guidance units, and stand-alone career education instructional units.

- The courses that included simulations (14 percent) usually used application type exercises of a practical nature.

- Several (6.5 percent) of the documents were vocational skill instructional materials.

- Documents in the "other" category included such things as "how to" guides in planning, implementing, and evaluating career education efforts as well as several final project reports.

- If we eliminate the fifty-two documents that were not curriculum guides, we find that seventy-three of the remaining documents (22.9 percent) were career education guides that might be using an infusion approach.

Of the seventy-three documents that appeared to use an infusion approach, sixty-three (or 86.3 percent) were obtained and reviewed. Two were annotated bibliographies; seven were eliminated because they were specifically designed around regular courses in which no career development concepts occurred. The remaining fifty-four guides were reviewed using the criteria in the four review focus areas.

## WHAT APPROACH WAS USED TO ANALYZE THE GUIDES?

A reviewer's checklist for examining the curriculum guides (see appendix) was developed. Their checklist allowed the writer to analyze the fifty-four documents according to the following main questions:

- Was an infusion approach actually used as defined in this document?

- Were the outcomes to be infused ones recognized nationally as career development outcomes and, if so, what outcomes did the guides emphasize?

- Were the career development outcomes in the guide congruent with career development theory at the intermediate and junior high years?

- How useful were the guides in determining accountability?

## HOW MANY GUIDES USED AN INFUSION APPROACH?

Of the fifty-four documents reviewed, twenty (or 37 percent) used the infusion approach as defined in this document. The remaining thirty-four (or 63 percent) documents, almost without exception, used the unit add-on approach. In the review, only three of the twenty infusion documents were considered strong infusion guides; that is, the infusion criteria were stated and did not need to be inferred. Most of the criteria were met through inference. A decision had to be made early in the review. Since so few of the guides met the infusion criteria, one could review those documents only for the remaining criteria of outcome focus, developmental level congruence, and potential usefulness for accountability. It was decided that all fifty-four documents would be reviewed for the remaining three review areas, regardless of whether or not the infusion approach criteria had been met.

## WHAT WERE THE FINDINGS?

The next several pages describe the findings of the review and analysis on the four focus areas.

### HOW WELL DID THE GUIDES COVER A COMPREHENSIVE SET OF OUTCOMES?

Coverage of the Eighteen Career Development Outcomes.

Using the eighteen career developmental outcomes of the Mesa project, the area of occupational information did have a high area of emphasis - a 30 percent level. The subject relevancy outcome included both a description of how what is learned in school is used in work settings and application exercises on regular curricular topics. The following chart indicated the percentages of outcome coverage by the eighteen career developmental goals:

| Goal Outcomes | Percent of Coverage |
|---|---|
| Variety of Occupations | 30.0 |
| Value of Work | 14.2 |
| Variety in Self | 11.1 |
| Values of and for Others | 6.5 |
| Societal and Economic Causes and Effects | 6.0 |
| Decision Making | 4.2 |
| Interpersonal Skills | 4.2 |
| Subject Relevancy | 3.7 |
| Lifestyle and Value of Success | 2.8 |
| Occupations and Self | 2.3 |
| Aptitudes and Training | 2.3 |
| Planning and Acceptance | 2.3 |
| Interdependence of Workers | 1.4 |
| Effects of Self | 1.0 |
| Discipline of Work | 1.0 |

| | |
|---|---|
| Self or Counsel Agent | 0 |
| Personal Values and Self Concept | 0 |
| Acceptance of all Workers | 0 |
| Other | 7.4 |

Some of the major highlights are as follows:

- Three outcomes were not covered - self as causal agent, personal values and self concept, and discipline of work.
- Several outcomes received less than 2.3 percent coverage - effects of self, occupations and self, value of work, acceptance of all workers, interpersonal skills, planning and acceptance, lifestyle and value of success.
- If there were equal coverage across outcomes, each outcome would have received a 5.5 percent. However, only six outcomes (33.3 percent) were at or above the average.

Coverage on the Nine Office of Education Outcomes.

The following chart indicates the percentages of outcome coverage using the nine Office of Career Education goals:

| EDUCATIONAL OUTCOMES | Percent of Coverage |
|---|---|
| Career Decision Making and Employment Seeking Skills | 35.9 |
| Incorporation of Work Values into Personal Value | 21.1 |
| Basic Academic Skill Competency | 17.5 |
| Entry Level Occupational Skills | 7.5 |
| Awareness of Continuing Educational Opportunities | 5.0 |
| Meaningful Work Values and Desire to Work | 4.4 |
| Work Habits | 3.1 |
| Career Choice | 3.1 |
| Successful Job Placement | 2.5 |

Some of the major highlights are as follows:

- If equal coverage was considered important, each goal would average 17 percent. The only goal close to that average was basic academic skill competence.
- Career decision making and employment seeking skills were highest, with 35 percent coverage, followed closely by incorporation of work values into personal value (21.8 percent).
- All other goals were poorly covered, thereby indicating polarization of a few goals.

Coverage of the Eight School-Based Themes/Outcomes.

The following chart indicates the percentages of outcome coverage using the eight themes/elements of the school-based model:

| Outcome | Percent of Coverage |
|---|---|
| Career Awareness | 43.0 |
| Self-Awareness | 12.9 |
| Employability Skills | 11.5 |
| Beginning Competency | 9.5 |
| Educational Awareness | 7.4 |
| Appreciation and Attitudes | 6.5 |
| Economic Awareness | 6.0 |
| Decision Making | 4.2 |

Some of the major highlights are as follows:

- Once again, the highest outcome coverage is in the area of career awareness which was mainly a focus on occupational information.
- Average goal coverage should have been 12.5 percent; only the self-awareness and employability skills areas approached this.
- Economic awareness did not come out high on polarization.

The findings indicated that, in the guides reviewed, coverage of all the outcomes was inadequate regardless of framework used. There also was a tendency to polarize toward occupational information, self-awareness information, and subject relevancy outcomes.

HOW CONGRUENT WERE THE GUIDES WITH APPROPRIATE THEORETICAL CAREER DEVELOPMENTAL STAGES?

The findings were somewhat disappointing regarding how well the guides took into consideration the theoretical framework items of where individuals should learn or experience certain career development tasks.

- Thirty-nine (72.1 percent) of the documents were below the appropriate career developmental stage.
- Fifteen (27.8 percent) of the documents were at or near the appropriate stage.

HOW USABLE WERE THE GUIDES FOR ACCOUNTABILITY?

None of the guides included all of the criteria to meet accountability usefulness. The total of possible points was six; the highest number of points any guide received was four. At least four points were needed to consider the document useful for accountability purposes. The chart below depicts the number of guides that received 4,3,2,1 or no points:

| Points Awarded | Number of Guides | Percent of Total |
|---|---|---|
| 6 | 0 | 0 |
| 5 | 0 | 0 |
| 4 | 14 | 25.9 |
| 3 | 10 | 18.5 |
| 2 | 5 | 9.5 |
| 1 | 7 | 13.3 |
| 0 | 18 | 33.3 |
| Total/Mean | 54 | 31.8% |

Some of the major highlights are as follows:

- The range of points was from 0 to 4. One-third of the guides were totally unacceptable for accountability purposes, having received zero points.

- Only one-fourth of the quides were useful for accountability purposes.

- The average percentage of all guides of potential accountability usefulness was 31.8 percent. (The desired average percent would have been 66.7 percent.)

In short, the quality of the guides from an accountability point of view was disappointing.

## WHAT ARE THE IMPLICATIONS?

The findings were revealing as to all four of the areas reviewed. In not one of the areas did the guides fair well.

### WHAT ARE THE IMPLICATIONS REGARDING THE DEFINITION OF INFUSION?

Although most career educators believe in infusion, the majority of the strategies used by program implementors, at least in terms of the guides reviewed, did not include infusion approaches. Apparently these guides, which were mainly developed by practitioners, did not tend to be infusion-type activities.

It is, therefore, extremely important for individuals involved in program implementation to decide, first of all, whether or not to focus on an infusion approach. If infusion is the approach to be used, program implementors need to ensure that strategies used to incorporate career education into a system support that approach.

As we noted earlier, the term "infusion" appears to be all things to all people. When is something considered "infused"? Some individuals prefer to use infusion to relate only to the "weaving in" of career development concepts into the regularly taught curriculum. Others tend to use the word when career development concepts are incorporated into a school endeavor, that is, a course of study, guidance center, or media specialist program. In this writer's opinion, perhaps the term "infusion" should best be left to curriculum content, which is considered - by many - to be the most important approach for long term maintenance and effectiveness.

Observations over the past few years have shown that the other methods of incorporating career education, such as classroom units of instruction specifically tied to career development concepts and add-on courses, happen more easily and, therefore, are frequently the only delivery strategies utilized. This distinction is crucial for those who are asked to write career development infused lessons or activities. On their first attempt to infuse a given concept, many teachers will write a special unit of instruction solely on the career development concept. Or, as sometimes happens, they may change something within the classroom environment in order to deliver the concept. The following is a brief example using the concept of decision making in a science teaching situation:

- Infused - in a science lesson requiring scientific inquiry (identification of problem, formulation of hypothesis, gathering information, testing effects of results on each hypothesis, drawing conclusions), students discuss the differences between personal and scientific problems. They discuss the probability factors involved when predicting how people might act as opposed to how objects will act (Bread and Butterflies, 1974, p. 41).

- Change in Classroom Environment - students learn decision-making skills when allowed to select which approach to use in learning a science concept. Students can select a group activity, filmstrip kit, or self-instructional book.

- Add-On Unit - the teacher sets aside fifteen minutes of six science periods to teach a unit on decision making.

All of these are suitable ideas, but unfortunately they tend to confuse the teacher who is asked to write infusion activities. It is, therefore, strongly recommended that distinctions be made among the following strategies:

- Items infused into the regular curriculum

- Changes in the classroom environment

- Add-on units of instruction

- Add-on courses of instruction

- Integration into other school programs (e.g., activities of counselors, school nurses, and the like).

The idea is that "infusion" (to be least confusing) is used best when it is restricted to the curriculum content of instruction. If this is the case, the following criteria are used to judge whether an activity is infused or not:

- There is a career development concept to be taught

- There is a regular curriculum concept to be taught

- The two concepts are woven together in a lesson plan and taught in conjunction with each other or at the same time.

The career development concept can be taught as a motivator, in conjunction with, as a part of direct practice, or as a culminating activity with the regular curriculum content.

An infused activity is not any of the following:

- An added career development activity related immediately after the regular content has been taught
- A separate lesson or unit of instruction related to a career development concept taught in the regular classroom
- A strategy employed in the classroom environment.

Again, note the above three ideas are good - but they probably should not be termed "infusion."

## WHAT ARE THE IMPLICATIONS AS THEY RELATE TO CAREER EDUCATION COVERAGE OF COMPREHENSIVE STUDENT OUTCOMES?

Polarization, at least in the materials reviewed in this study, is a reality. Practitioners must examine their definitions of career education in order to refocus the purpose of career education if the nationally established outcomes of the Office of Career Education are to be met.

It is recommended that this study be replicated in districts and states where career education has been implemented for several years. If polarization and/or lack of comprehensive coverage is found once again, steps should be taken to rectify the situation. This is especially true if the career education movement is to be a separate entity from vocational education.

Newly formed programs at the local or state level, as one of their first tasks, should examine the purposes and definition of career education in order to be congruent with the most advanced practices. Curriculum development efforts should take place only after a comprehensive definition and student outcomes have been generated and approved by the school board and school administration.

## WHAT ARE THE IMPLICATIONS AS THEY RELATE TO CONGRUENCE OF OUTCOMES TO CAREER DEVELOPMENT THEORY?

If these findings in this report are representative of what is happening nationwide with respect to which outcomes are being taught at which stages of career development theory, many of the activities do not seem worthwhile. They appear to come too late in the developmental stages of a youngster. This fact could

account for some of the nonsignificant data being found when comparing various career education effects. Outcomes must be designated by developmental level if we expect to meet the needs of students at the most appropriate time. These findings give rise to the fact that we may not be setting high enough expectations for students.

## WHAT ARE THE IMPLICATIONS AS THEY RELATE TO USEFULNESS OF THE GUIDES FOR ACCOUNTABILITY?

As the data indicated, the majority of the guides were not useful from an accountability point of view. It is recommended that future funding of projects (whether at the national or state level) identify specific instructional components that must be included in any curriculum developmental efforts. We must begin to show evidence that career education really works. One way to do this is to ensure that materials developed have the potential to be used for accountability.

## SUMMARY

The purpose of this report was to review selected materials in which the infusion approach in career education was utilized. As we have indicated, it appeared that little "actual" infusion is taking place - at least in terms of what appears in a number of curriculum guides. If infusion is one of the more worthwhile approaches for long term maintenance of career education, those in leadership positions must take steps to ensure that infusion is the delivery method of the future.

Our findings indicated that curriculum development materials often lack comprehensiveness in terms of career development student outcomes. The materials tend to focus on occupational information. This situation must change if the distinction between career education and vocational education is to become a reality. It also must change if we are going to attain the important student outcomes in career education.

In regard to career developmental stages of students, what we are teaching our students appears to come too late in their schooling. Lastly, most of the efforts - at least from a curriculum development point of view - does not allow us to determine the effects of career education on student learning.

In spite of these problems, this writer feels that the opportunity exists to rectify the situation since more and more people are realizing that the career development of a youngster is one of the most important goals for which schools are responsible.

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